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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Bernd Rumpf

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EXAMINER

WEINSTEIN, LEONARD J

ART UNIT

PAPER NUMBER

3746

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/529,599	Applicant(s) RUMPF, BERND	
	Examiner LEONARD J. WEINSTEIN	Art Unit 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the amendment of December 30, 2009. In making the below rejections and/or objections the examiner has considered and addressed each of the applicant's arguments.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 4, 6, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Szwargulski et al. US 4,974,570. Szwargulski teaches all the limitations for a feed unit (as shown in figure 1) including: **[claim 1]** a baffle 33 having a first chamber 37 (see figure 2; col. 3 ll. 55-62) for collecting the fuel, a fuel pump 43 for sucking up the fuel, a fuel-pump suction opening 46 arranged in a vicinity of a bottom of the first chamber 37 of the baffle 33, a bottom valve 42 arranged proximate the bottom of the first chamber 37, the bottom valve 42 permitting a flow of fuel into the first chamber 37 (col. 5 ll. 30-34) and preventing a flow of fuel out of the first chamber 37 (via 40), and a second chamber 27 connected to the first chamber 37 via a throttle valve 54, wherein a volumetric flow of fuel that is restricted by the throttle valve 54 will be smaller than the volumetric flow fed by the fuel pump (because once fluid is fed by the pump it will be

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under positive pressure whereas the fuel coming into chamber 37 via valve 54 is under pressure by gravity and is not positively displaced); **[claim 2]** wherein the second chamber 27 is manufactured integrally with the baffle 33 (see figure. 2); **[claim 4]** wherein the throttle valve 54 is arranged in a wall 32 which is common to the first chamber (48, 50; col. 4 ll. 47-52) and the second chamber 27; **[claim 6]** wherein the second chamber 27 is arranged within the baffle 33 and a common wall (48, 50) between the first chamber 37 and the second chamber 27 is lower than an outer wall 33 (side wall 33 is an outer wall of the container 27 that defines a second chamber, and is considered to be a baffle; therefore element 33 is being used to designate a baffle and a side wall of the baffle because element 33 defines a unitary structure; element 27 is disclosed as a container, this container defines a chamber from which fluid is drawn through valve 54 therefore it has been used to correspond to the claimed chamber) of the baffle 33; **[claim 7]** and wherein the throttle valve 54 is configured as an opening with a designated cross section (wherein the valve unit 54 includes port opening in element 48 which will have a cross section as shown in figure 6 by the dotted lines; col. 5 ll. ll. 58-59).

4. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Wallrafen US 6,002,328. Wallrafen teaches all the limitations for a feed unit including: **[claim 1]** a baffle (defined by element 2) having a first chamber (chamber surrounding pump element 3) for collecting the fuel, a fuel pump 3 for sucking up the fuel, a fuel-pump suction opening (not shown) arranged in a vicinity of a bottom of the first chamber (chamber defined by element 2) of the baffle 2, a bottom valve (not shown) arranged

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proximate the bottom of the first chamber (defined by element 2), the bottom valve (not shown) permitting a flow of fuel into the first chamber (defined by element 2) and preventing a flow of fuel out of the first chamber (defined by element 2), and a second chamber 18 connected to the first chamber (defined by element 2) via a throttle valve 20 (col. 4 ll. 51-61) wherein a volumetric flow of fuel that is restricted by the throttle valve 20 will be smaller than the volumetric flow fed by the fuel pump 3 (because once fluid is fed by the pump it will be under positive pressure whereas the fuel coming into chamber defined by element 2 via valve 20 is under pressure by gravity and is not positively displaced); **[claim 2]** and wherein the second chamber 18 is manufactured integrally with the baffle 2 (as shown in the embodiment of shown in figure 2).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
7. Claims 1 and 2 rejected under 35 U.S.C. 102(b) as anticipated by or Wallrafen US 6,002,328, in the alternative, under 35 U.S.C. 103(a) as obvious over Wallrafen US 6,002,328 in view of Eck US 6,488,476 and Ruger et al. US 5,396,872. Wallrafen teaches the limitations as discussed but is silent regarding details of a pumping unit 3 that is disposed within a chamber surrounded by a fill cup 2 having a valve on a bottom wall. However the examiner notes that the embodiment of figure 1 shows the bottom of a flood cup 2 and pump 3 located above a bottom of a tank 27 which suggests that the fill cup 2 which feeds fuel to a pump 3 is bottom fed since if it was fed from some other region along a side wall of the fill cup, the remaining fluid 4 in the tank 27 would not be delivered to the pump 3. Further both Eck and Ruger teach bottom fed pumps (10 and 18 respectively) which are disposed within a container constituting a baffle (2 and 12 respectively) defining chambers (defined by element 8 and element 68 respectively) where the inflow of fluid is regulated by an inlet valve (16 and 76 respectively) arranged on the bottom of the chambers (defined by element 8 and element 68 respectively).

Bottom fed fuel pumps disposed in baffles that permit fluid to flow through a valve arranged on the bottom wall of a chamber defined by a baffle in which a fuel pump is disposed was an equivalent structure known in the art. In order to rely on equivalence as a rationale supporting an obviousness-type rejection, the equivalency must be recognized in the prior art. In re Ruff, 256 F.2d 590, 118 USPQ 340 (CCPA 1958). Eck and Ruger represents evidence that a valve arranged on the bottom wall of a chamber defined by a baffle in which a fuel pump is disposed was art-recognized equivalent

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structures for fuel feed units. Therefore, because this valve arrangement was an art-recognized equivalent at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute a fuel pump in a baffle without a valve in a bottom wall for feed unit including a valve arranged on the bottom wall of a chamber defined by a baffle in which a fuel pump is disposed. An express suggestion to substitute one equivalent component or process for another is not necessary to render such substitution obvious. In re Fout, 675 F.2d 297, 213 USPQ 532 (CCPA 1982).

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wallrafen US 6,002,328 as applied to claim 1 above in section 4 above, or as applied to Wallrafen US 6,002,328 in view of Eck US 6,488,476 and Ruger et al. US 5,396,872 in section 7 above. Wallrafen US 6,002,328 teaches in the embodiment of figure 2, where a second chamber 18 fixed to a fill cup 2 which defines a first chamber near the top of the fill cup. Arranging the top of the chamber 18 and fill cup 2 at the same height would require a rearrangement of parts. It would have been obvious to one having ordinary skill in the art at the time the invention was made to move a second chamber to be located at the same height of a first chamber in order to provide a fuel feed unit. It has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70.

9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wallrafen US 6,002,328 as applied to claim 1 above in section 4 above, or as applied to Wallrafen US 6,002,328 in view of Eck US 6,488,476 and Ruger et al. US 5,396,872 in section 7 above. Wallrafen US 6,002,328 teaches a second chamber 18 fixed to a fill cup 2 in the

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shape of a box. Change the shape of the second chamber so that it formed an annular chamber around the first chamber defined by a fill cup would require a change in the shape of the second chamber. A change in form or shape is generally recognized as being within the level of ordinary skill in the art, absent any showing of unexpected results. *In re Dailey et al.*, 149 USPQ 47. A Change in aesthetic (ornamental) design generally will not support patentability. *In re Seid*, 73 USPQ 431.

10. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Szwargulski et al. US 4,974,570, as applied in section 3 above. Szwargulski discloses the claimed invention including a valve throttling a volumetric flow which flows from a second chamber, except Szwargulski does not disclose a volumetric flow in which a level is equalized in three to five minutes after a fuel pump has stopped. The time needed to equalize a level of fluid in a first and second chamber is a results effective variable with the results being a fluid level equalizing three to five minutes after a fuel pump has stopped. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a feed unit capable of equalizing a fluid level within two chambers of a fuel tank within 3 to 5 minutes after a pump has been stopped, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

11. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wallrafen US 6,002,328 as applied to claim 1 above in section 4 above, or as applied to Wallrafen US 6,002,328 in view of Eck US 6,488,476 and Ruger et al. US 5,396,872 in section 7

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above. Wallrafen discloses the claimed invention including a valve throttling a volumetric flow which flows from a second chamber, except Wallrafen does not disclose a volumetric flow in which a level is equalized in three to five minutes after a fuel pump has stopped. The time needed to equalize a level of fluid in a first and second chamber is a results effective variable with the results being a fluid level equalizing three to five minutes after a fuel pump has stopped. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a feed unit capable of equalizing a fluid level within two chambers of a fuel tank within 3 to 5 minutes after a pump has been stopped, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

12. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wallrafen US 6,002,328 as applied to claim 1 above in section 4 above, or as applied to Wallrafen US 6,002,328 in view of Eck US 6,488,476 and Ruger et al. US 5,396,872 in section 7 above. Wallrafen teach as a second chamber 18 that is substantially smaller than a fill cup that constitutes a baffle and defines a first chamber. Therefore Wallrafen discloses the general conditions of the claimed invention except for the express disclosure of a second chamber provided having a volume of approximately 10-20% of a baffle volume. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make a second chamber comprising approximated 10-20% of a baffle volume, since the claimed values are merely an optimum or workable range. It has been held that where the general conditions of a claim are disclosed in the prior art,

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discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Response to Arguments

13. Applicant's arguments filed December 30, 2009 have been fully considered but they are not persuasive.

a. With respect the rejection of claims 1, 2, 4, 6, and 7 under 35 U.S.C. 102(b) as being anticipated by Szwargulski US et al. US 4,974,570 ("Szwargulski") the applicant argues the reference does not teach the limitations as claimed because:

i. Element 42 is a float and not a valve.

Response: The float 42 of Szwargulski is directly connected to and, as the applicant notes, provides an actuator for opening and closing the valve member 40. Its function is directly related and inseparable from the valve member 40. The examiner also notes that either of elements 42 or 40 could have been cited as teaching "a bottom valve arranged proximate the bottom of the first chamber, the bottom valve permitting a flow of fuel into the first chamber." As noted by the applicant, movement of the float 42 dictates how and when the chamber 37 that supplies the pump 43 fuel, is itself supplied with fluid from the bottom of the tank 14. The float 42 of Szwargulski meets the limitations as claimed.

ii. The applicant argues that

“[s]ince the fuel pump continues to pump fuel received through the valve 54 until all the fuel in the tank is used, the volumetric flow through the valve 54 must be equal to or greater than the volumetric flow must be equal to or greater than the volumetric flow of the pump. Accordingly, *Swargulski* fails to disclose ‘wherein a volumetric flow of fuel that is restricted by the throttle valve is smaller than the volumetric flow fed by the pump.’”

App. 10/529599, Amendment of Dec. 30, 2009 (“Amendment”),
page 6.

Response: The claim requires the input fuel that goes into a pump and through a throttle valve have a smaller volumetric flow than what is “fed by” a pump. The comparison is between an input flow and “the volumetric flow fed by [discharged] by the fuel pump.” Essentially the limitations claim that the input of a pump has to be less or smaller than the volumetric flow (i.e. gallons per minute) at the output of a pump.

These limitations are taught by almost any positive displacement pump because they describe the essential function and purpose of a pump; pressurize a fluid to increase volumetric flow rate in order to convey the fluid from one location to another. *Swargulski* teaches the fuel is maintained in a container 27, then due to the closing of bottom valve (40, 42) and the suction generated by the pump, valve 54 opens and fuel from the container 54 is fed to the pump. The fuel that is fed to the pump has to go through a one way valve 54 and a screen 55. Even if the suction

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pressure generated by the pump was the exact same in magnitude as the discharge pressure, the fuel being fed to the pump would have to go through and around two impediments (screen 55 and the valve body of valve 54) before it reached the intake 46 of the pump. The valve and the screen “throttle” the fuel fed to the pump. This fuel has to be at a lower head pressure, and therefore lower volumetric flow rate, then fuel being fed by the pump because the fuel fed by the pump is under positive pressure and its flow path from the pump is not obstructed any impediments such as a screen or a one-way valve.

If the fluid system of the instant reference was closed then it would be possible for the volumetric flow fed by the pump to be the same as that on an input side but Szwargulski is not a closed system.

b. With respect the rejection of claims 1 and 2 under 35 U.S.C. 102(b) as being anticipated by Wallrafen US 6,002,328 (“Wallrafen”), or in the alternative under 35 U.S.C. 103(a), as being unpatentable over Wallrafen in view of Eck US 6,488,476 (“Eck”) and Ruger et al. US 5,396,872 the applicant argues that references do not teach the invention as claimed because::

i. There is no bottom valve in the Wallrafen arrangement.

Response: The examiner maintains figure 1 of Wallrafen shows the bottom of a flood cup 2 and pump 3 located above a bottom of

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a tank 27 which suggests that the fill cup 2 which feeds fuel to a pump 3 is bottom fed since if it was fed from some other region along a side wall of the fill cup, the remaining fluid 4 in the tank 27 would not be delivered to the pump 3. The examiner further notes that providing a bottom fed fuel pump with a valve mounted on the bottom of a container is an industry standard for fuel pumps in motor vehicles as evidenced the prior art of Tanimura US 6,832,602, Gabauer et al. US 2002/0152996, Ruger et al. US 5,396,872, Szwargulski et al. 4,974,570, and DE 69807637.

- ii. Wallrafen teaches that a fuel pump draws sufficient fuel therefore "the volumetric flow through valve 20 must be equal to or greater than the volumetric flow fed by the fuel pump." Amendment, pg. 7.

Response: See 13.a.ii.Response. Wallrafen is applicable because fluid has to go through a valve 20 before it reaches the pump when a reserve fuel is used. The resistance created by the valve not being completely open, or not the valve not having the same diameter of the line 19, or the elbow in the line 19 just before fluid reaches the cup 2, all lower the head pressure of the fuel supplied to the pump from container 18. The discharge line 12 is straight and does not have any impediments that would lower the pressure and thus reduce its volumetric flow.

- iii. There is no reason to combine the valve in Eck to the teachings of Wallrafen.

Response: Eck and Ruger were cited because the references teach a valve on the bottom of a tank near the inlet of a bottom fed pump that is analogous to the pump of Wallrafen. Regardless of the specific features the valves of Eck and Ruger teach, the principle of providing a valve for a bottom fed fuel pump was well known in the art as evidenced by the large number of references that teach analogous pumping systems for motor vehicles. Thus Eck and Ruger are examples of a well known practice for providing a known pump arrangement which Wallrafen also teaches (i.e. a container disposed on the bottom of a tank with a pump which is bottom fed). It would have been obvious to apply this known technique to Wallrafen.

- iv. Ruger does teach a throttle valve between chambers.

Response: The examiner notes that the valve of Wallrafen was relied on for a valve (valve 20) between chambers.

Conclusion

14.

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEONARD J. WEINSTEIN whose telephone number is (571)272-9961. The examiner can normally be reached on Monday - Thursday 7:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on (571) 272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devon C Kramer/
Supervisory Patent Examiner, Art
Unit 3746

/Leonard J Weinstein/
Examiner, Art Unit 3746